IEEE
Humanitarian Technology Board

IEEE SIGHT
Special Interest Group on Humanitarian Technology

IEEE TECH4GOOD

RURAL
DEVELOPMENT PROJECTS

IMPLEMENTED IN ADOPTED VILLAGES

Sairam INSTITUTIONS



Sairam RAISE
Inspiring PEOPLE

Sairam EOMS
Improving PROCESS

Sairam SDG ACTION PROGRAM
Instilling PURPOSE



Sri SAIRAM ENGINEERING COLLEGE
ENGINEERING COLLEGE
An Autonomous Institution
West Tambaram, Chennai - 44
www.sairam.edu.in

Rural

Solar Electrification Station (22-HAC-103)

Providing Alternative Renewable Electricity

received project fund from IEEE HAC/SIGHT under Local Pressing Community Needs.

Project Fund

4000 USD (Rs. 3,29,150)

Funded Organization

IEEE HAC/SIGHT

Project Completed at

Nallur High School, Poonthandalam





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DESCRIPTION

Rural Solar Electrification Station is a humanitarian project undertaken by Sri Sai Ram Engineering College in association with IEEE HAC/SIGHT with a funding of 4000 USD. The project focuses on providing electricity to the neighbouring areas in case of natural calamities or in the situation of shortage of electricity.

INAUGURATION

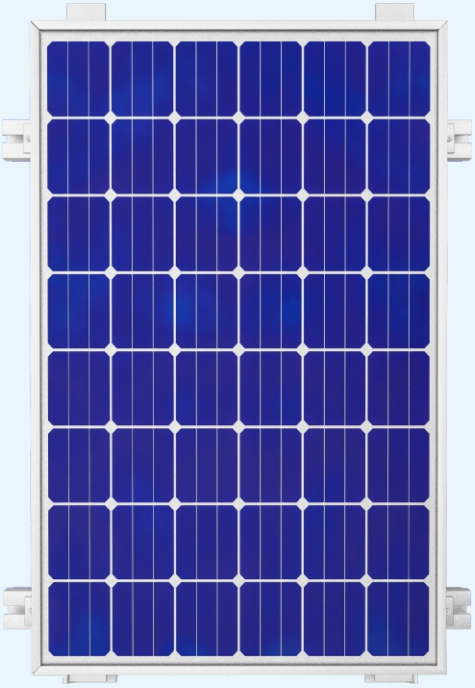
Inaugural Meeting for our Rural Solar Electrification Station project, which was funded by IEEE HAC/SIGHT was held on 08-02-2023 at the Government High School in Nallur, Poonthandalam village.

The event was attended by
our Principal Dr. Porkumaran, our Trustee Mr. Balu, our HOD Dr. T Sheela,
Village panchayat president Mr. Gnana Prakash and school Head Master Mr.Stephen

TECHNICAL SPECIFICATIONS

SOLAR PANELS:

- Renewsys 335Wp Multi-crystalline- 8 Numbers - 2.4KWp
- Linear Performance Warranty of 25 Years
- Renewsys has “Better Tolerance to Micro Crack as higher number of bus bar makes the PV modules less prone to loss in efficiency due to micro-cracks.”



SOLAR INVERTERS:

- UTL Inverters have the best in-class Technology for Solar Production
- UTL gives 2 Years Warranty for the Solar Inverters
- This Solar Project has been Designed with 3.5 KVA Solar Inverter

SOLAR BATTERY:

- SVS Energy Designs Solar Battery systems to maximize Power Generation while lowering cost of Energy
- SVS Energy gives 5 Years warranty for the Solar C10 type Batteries from Axcel Ryzen
- Four Nos of 160Ah Solar Batteries are connected to the Solar Inverter in Series connection providing 48Vdc

SAFETY SYSTEMS:

- Earthing System for the Solar Plant gives the protection to the Entire System
- High quality Tin annealed DC cables of 4 Sqmm has been used for the Solar Off-Grid System
- 3.Iron Meshed grills were designed and placed surrounding the batteries and inverters.

அரசுப் பள்ளிக்கு 12 கிலோ வாட் சூரிய மின்தகடு: சாய்ராம் பொறியியல் கல்லூரி வழங்கியது



ஸ்ரீசாய்ராம் பொறியியல் கல்லூரி சார்பில் பூந்தோட்டம் ஊராட்சி புது நல்லூர் அரசு உயர்நிலைப் பள்ளியில் ரூ.3.25 லட்சத்தில் அமைக்கப்பட்ட சூரிய ஒளி மின் வசதி திட்டத்தை தொடங்கி வைத்த ஸ்ரீ சாய்ராம் கல்விக் குழுமத் தலைவர் சாய்பிரகாஷ் லியோ முத்து. உடன் முதல்வர் பொற்குமரன், பேராசிரியை ஷீலா, திட்ட ஒருங்கிணைப்பாளர் சோம பிரதீபா உள்ளிட்டோர்.

தாம்பரம், ஜூன் 23: தாம்பரம் அரசு உயர்நிலைப் பள்ளிக்கு 12 கிலோ வாட் உற்பத்தித் திறன் கொண்ட சூரிய மின்தகடுகளை சாய்ராம் பொறியியல் கல்லூரி வழங்கியுள்ளது.

சென்னை மேற்கு தாம்பரம் ஸ்ரீ சாய்ராம் பொறியியல் கல்லூரி, சமூகப் பொறுப்புணர்வு மேம்பாட்டு திட்டத்தின் கீழ் அரசு உயர்நிலைப் பள்ளியில் ரூ. 3.25 லட்சம் செலவில் சூரிய மின்தகடு அமைக்கப்பட்டுள்ளது. இதன் செயல்பாட்டைத் தொடக்கி வைக்கும் நிகழ்ச்சி வெள்ளிக்கிழமை நடைபெற்றது.

இதில் கலந்து கொண்ட ஸ்ரீசாய்ராம் கல்விக் குழுமத் தலைவர் சாய் பிரகாஷ் லியோ முத்து, சூரிய மின்தகட்டின் இயக்கத்தை தொடங்கி வைத்து பேசியதாவது:

பூந்தண்டலம் ஊராட்சி புது நல்லூரில் அமைந்துள்ள அரசு உயர்நிலைப் பள்ளியில் போதிய மின்வசதி இல்லை என்பதால், பள்ளியின் மேற்கூரையில் 12 கிலோ வாட் உற்பத்தித்திறன் கொண்ட சூரிய மின்சார உற்பத்திக்கான சூரிய மின்தகடு மற்றும் சேமிப்புத் திறன் கொண்ட பேட்டரிகள் உள்ளிட்டவை அமைத்துக் கொடுக்கப்பட்டுள்ளது. என்றார் அவர். நிகழ்ச்சியில் பள்ளி தலைமை ஆசிரியர் ஸ்டீபன், சாய்ராம் பொறியியல் கல்லூரி முதல்வர் பொற்குமரன் உள்ளிட்ட பலர் கலந்து கொண்டனர்.

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Rural

Drought Improvement & Sustainable Water Management Project

HYGIENE HYDRO

Project Fund

7000 USD

(Rs. 5,72,600)

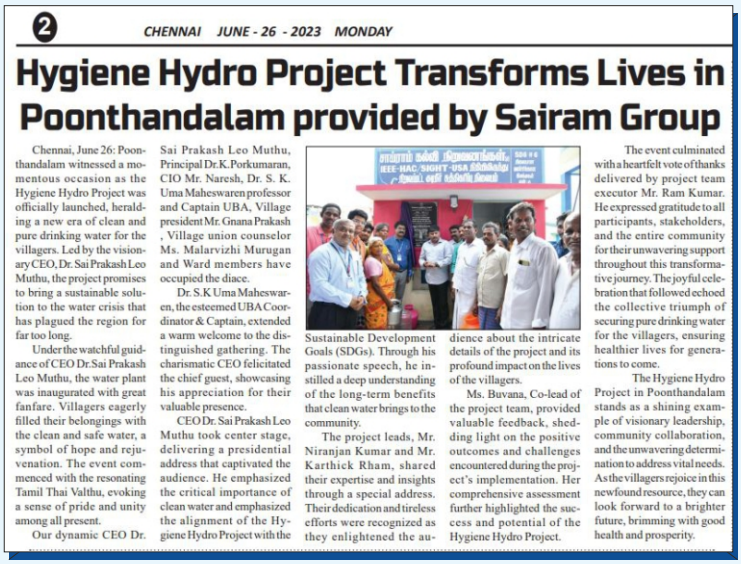
Funded Organization

IEEE HAC/SIGHT

Project Completed at

Government Hr. Sec. School
Nallur, Poonthandalam





2 CHENNAI JUNE - 26 - 2023 MONDAY

Hygiene Hydro Project Transforms Lives in Poonthandalam provided by Sairam Group

Chennai, June 26: Poonthandalam witnessed a momentous occasion as the Hygiene Hydro Project was officially launched, heralding a new era of clean and pure drinking water for the villagers. Led by the visionary CEO, Dr. Sai Prakash Leo Muthu, the project promises to bring a sustainable solution to the water crisis that has plagued the region for far too long.

Under the watchful guidance of CEO Dr.Sai Prakash Leo Muthu, the water plant was inaugurated with great fanfare. Villagers eagerly filled their belongings with the clean and safe water, a symbol of hope and rejuvenation. The event commenced with the resonating Tamil Thai Valthu, evoking a sense of pride and unity among all present.

Our dynamic CEO Dr. Sai Prakash Leo Muthu, Principal Dr.K.Porkumaran, CIO Mr. Naresh, Dr. S. K. Uma Maheswaren professor and Captain UBA, Village president Mr. Gnana Prakash , Village union counselor Ms. Malarvizhi Murugan and Ward members have occupied the diace.

Dr. S.K Uma Maheswaren, the esteemed UBA Coordinator & Captain, extended a warm welcome to the distinguished gathering. The charismatic CEO felicitated the chief guest, showcasing his appreciation for their valuable presence.

CEO Dr. Sai Prakash Leo Muthu took center stage, delivering a presidential address that captivated the audience. He emphasized the critical importance of clean water and emphasized the alignment of the Hygiene Hydro Project with the Sustainable Development Goals (SDGs). Through his passionate speech, he instilled a deep understanding of the long-term benefits that clean water brings to the community.

The project leads, Mr. Niranjan Kumar and Mr. Karthick Rham, shared their expertise and insights through a special address. Their dedication and tireless efforts were recognized as they enlightened the audience about the intricate details of the project and its profound impact on the lives of the villagers.

Ms. Buvana, Co-lead of the project team, provided valuable feedback, shedding light on the positive outcomes and challenges encountered during the project's implementation. Her comprehensive assessment further highlighted the success and potential of the Hygiene Hydro Project.

The event culminated with a heartfelt vote of thanks delivered by project team executor Mr. Ram Kumar. He expressed gratitude to all participants, stakeholders, and the entire community for their unwavering support throughout this transformative journey. The joyful celebration that followed echoed the collective triumph of securing pure drinking water for the villagers, ensuring healthier lives for generations to come.

The Hygiene Hydro Project in Poonthandalam stands as a shining example of visionary leadership, community collaboration, and the unwavering determination to address vital needs. As the villagers rejoice in this newfound resource, they can look forward to a brighter future, brimming with good health and prosperity.

RO Plant Expenses

S No	Description	Amount
1	**Total Expenses for RO plant (Only) (which includes CGST + SGST = Rs. 57,600)**	**Rs. 3,77,600**
2	**Total Fund Received from IEEE - SIGHT HQ (3500 USD)**	Rs. 2,86,852
3	**Amount to request to be sent to management to settle RO vendor (1)** – (2)	**Rs. 90,748**

Building Expenses

S No	Description	Amount
1	**Planned expenses for Building, plumbing & EB work** (As per rough mutual signed agreement by PI & Contractor)	Rs.1,75,000
2	**Approximate max additional expenses for building work Due to small changes in building & EB**	Rs. 20,000
3	**Total expenses for Building (Only)** **(1)+(2)**	**Rs. 1,95,000**
4	**Amount sanctioned by the management order Dated 2/12/22 - Ref No. 19lSEC/TBM/IMPLEMENT-IEEE PR I 2022** **(3) – (4)**	Rs. 1,57,000
5	**Amount to request to be sent to management to settle building contractor**	**Rs.38,000**

Total Cost of Project (Rs. 3,77,600 + Rs. 1,95,000)	**Rs. 5,72,600**

ஸ்ரீ சாய்ராம் பொறியியல் கல்லூரி

(An Autonomous Institution)

மேற்கு தாம்பரம், சென்னை - 44. www.sairam.edu.in

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இணைந்து கட்டி நிறுவப்பட்ட

கிராமப்புற வறட்சி மேம்பாடு மற்றும் நிலையான நீர் மேலாண்மை திட்டம் "ஹைஜின் ஹைட்ரோ"வின் திறப்பு விழா

23.06.2023, வெள்ளிக்கிழமை | நல்லூர், பூந்தண்டலம்

தலைமை மற்றும் திட்ட துவக்கம்

முனைவர். சாய்பிரகாஷ் லியோமுத்து

தலைவர், சாய்ராம் கல்விக் குழுமம்

முனைவர். க. பொற்குமரன்
முதல்வர், சாய்ராம் பொறியியல் கல்லூரி
சேர்மன், IEEE மெட்ராஸ் பிரிவு

முனைவர். எஸ்.கே. உமா மகேஷ்வரன்
ஒருங்கிணைப்பாளர் UBA,
திட்ட பொறுப்பாளர்

திரு. மு. ஞான பிரகாஷ்
ஊராட்சி மன்றத் தலைவர், பூந்தண்டலம்

திருமதி. மலர்விழி முருகன்
ஒன்றிய கவுன்சிலர்

சாய்ராம் கல்விக் குழும பிரதிநிதிகள்
மற்றும் பூந்தண்டலம் ஊர்மக்கள்

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Rural

Tech-driven Classroom And Improved Learning Methodology Project

Inventive Erudition

(23-HTB-036)

Project Fund

6600 USD
(Rs. 5,45,000)

Funded Organization
IEEE HAC/SIGHT

Project Completed at

Panchayat Union School, Poonthandalam

OVERVIEW:

23-HTB-036 A RURAL EDU-TECH CLASSROOM UPGRADATION.

The Inventive Erudition project was initiated from a desire to bridge the educational gap in a small government school located in Poonthandalam gram panchayat, Puducherry, Tamil Nadu, India. We envisioned a future where rural students could access quality education through an engaging and interactive learning environment.

Our team, composed of 10 students from diverse engineering disciplines at Sri Sairam Engineering College led by Dr.S.K.Umamaheswaran and Professor D.Prabhu, secured funding of 6557.00USD through the Institute of Electrical and Electronics Engineers (IEEE) Sight program. This reflects the project's potential and our team's ability to present a compelling solution.

To achieve this goal, we established a smart classroom equipped with cutting-edge technology. An interactive board and a PC system were installed to facilitate dynamic presentations, collaboration, and access to educational resources. We supplemented digital textbooks with a collection of digital and Augmented Reality (AR) integrated study materials, fostering a more immersive learning experience for the students.Recognizing the importance of environmental responsibility, we installed solar panels to ensure a clean and reliable power source for the smart classroom.Additionally, the classroom was furnished with necessary cupboards to enhance organization and optimize space utilization.

REPORT:

This report details the Inventive Erudition project, which aimed to create a smart classroom in a rural Indian school. The project outfitted the classroom with interactive technology, AR learning materials, and sustainable power. Funded by IEEE Sight, the project is awaiting full implementation due to unforeseen challenges. The report explores the project's goals, components, and next steps for overcoming implementation hurdles.

SURVEY:

Our student team conducted a comprehensive survey to assess the impact and effectiveness of the proposed project on students and teachers .Surveyors were asked to evaluate the existing classrooms in terms of infrastructure, resources and learning environment including the factors such as classroom size, availability of materials and overall ambiance, outdated teaching methods, lack of resources and difficulties in accessing digital content. Outcomes of the survey report encouraged us to propose this in the above stated location.

Surveyors conducted survey to identify the basic needs.

LOCAL COMMUNITY NEED:

Puducheri is a small village with an area of 120.36 hectares and a population of 560 people.This village comes under Poonthandalam gram panchayat, Kancheepuram district, Tamil Nadu.This village consists of a panchayat union primary school with 48 students and two teachers.While visiting the village, we observed that the school lacks in the admission of the locals due to the school's poor infrastructure. Currently, the government has made a drastic change in education and its way of approaching the students so it reaches them way easier and in an entertaining manner, increasing their affinity towards education. In order to transform education into a digital process, they created individual enrollment IDs in the government education app,with tests generated for students in the app itself. The main problem that arises here is that the panchayat union public school in Puducherry doesn't have any computers or other modern equipment to aid the students. As a reason, locals don't prefer this school and go for a well equipped school. By implementing our project, this school would increase its digital infrastructure so that the students could make proper use of digitized education. By increasing the infrastructure of the school in rural areas, we will step forward towards Indian sovereignty.

TARGET:

Goal 4 : Quality Education

Goal 7 : Affordable and Clean Energy

Goal 11 : Sustainable Cities and Communities

PROJECT EXECUTION:

A dynamic team of educators, students, engineers and consultants converged to envision and design a transformative solution aimed to revolutionize digital learning at Panchayat Union Primary School. Through brainstorming sessions , survey and planning, we as a team crafted a comprehensive proposal, outlining the integration of cutting-edge educational technology and through sustainable energy solutions. Our unwavering commitment to excellence and innovation we prepared a comprehensive budget plan and a project assessment matrix. With great anticipation, we presented our proposal to the IEEE HTB/SIGHT and clearly addressed every query posed by the review committee regarding the project. We were overjoyed to receive a funding allocation of $6557.00 USD, affirming our collective dedication to empower the next generation learners and benefiting the student community nearby the school and to promote the growth of the local community.





GLIMPSE OF PROJECT EXECUTION









AFTER IMPLEMENTATION

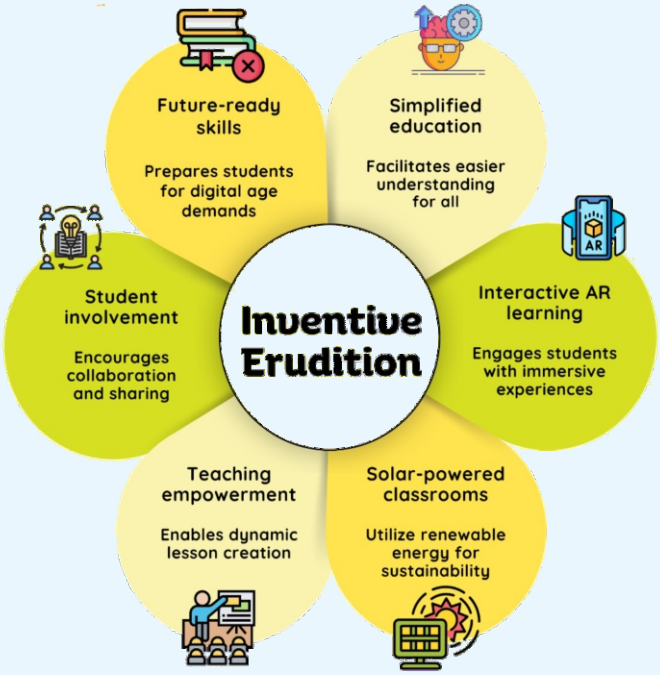




Dr. S.K.Umamaheswaran (Project advisor) and Mr.D.Prabhu (Project investigator) visited the school after the implementation of the project. Smile in the face of each kid was our encouragement which led us from

"No where to somewhere.....

CORE OUTCOME OF INVENTIVE ERUDITION





INVITING VILLAGE PEOPLE FOR INAUGURATION













IMPLEMENTATION COMMITTEE

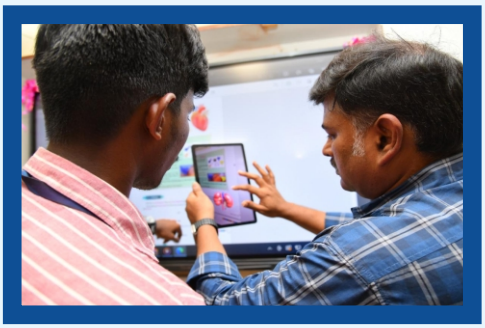


Mr. Prabhu.D	Principal Investigator
Srinivas S	Project Lead
Desigan M	Additional Project Lead
Hema Krishnan A	Additional Project Lead
Subha Lakshmi S	Project Executor
Roshni J	Project Executor
Prabakaran G S	Finance Lead
Lokesh V	Technical Lead
Soumya M	Technical Lead
Meganathan D	Machinery Lead
Srivathsan V	Surveyor

INAUGURATION








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நிறுவனங்களால் நிறுவப்பட்ட

தொழில்நுட்பம் மேம்படுத்தப்பட்ட பள்ளி வகுப்பறை மற்றும் கற்றல் முறை திட்டம் "இன்வென்டிவ் எருடிஷன்"னின் திறப்பு விழா

02.05.2024, வியாழக்கிழமை

ஊராட்சி ஒன்றிய தொடக்கப்பள்ளி, புதுச்சேரி, பூந்தண்டலம்

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ஒருங்கிணைப்பாளர்
- NSS & IEEE SIGHT

திரு.தே. பிரபு
திட்ட முதன்மை பொறுப்பாளர்

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மற்றும் பூந்தண்டலம் ஊர்மக்கள்



INAUGURATION NOTE

The panchayat union public school in Puducherry, near Naduveerapattu, witnessed the grand inauguration of our innovative rural education project on [02.05.2024]. This project, a testament to the collaborative spirit, is funded by [HTB IEEE SIGHT].

The inauguration ceremony was a resounding success, graced by the esteemed presence of the CEO and other high-level representatives. Local dignitaries, members of the public, students, teachers, and our entire team also joined the celebration.

To commemorate this momentous occasion and symbolize the project's growth, we all came together to plant trees, signifying not only the project's potential but also our commitment to environmental sustainability.



கிராமப்புற வளர்ச்சித் திட்டப் பணிகளுக்கு உதவி

புதுச்சேரி ஊராட்சி ஒன்றிய தொடக்கப் பள்ளியில் மேம்படுத்த பள்ளி வகுப்பறை மற்றும் கற்றல் முறைத் திட்டத்தைத் தொடங்கி வைத்த ஸ்ரீசாய்ராம் கல்விக் குழுமத் தலைவர் சாய்பிரகாஷ் லியோ முத்து.

தாம்பரம், மே 3: ஸ்ரீசாய்ராம் பொறியியல் கல்லூரி நிலையான வளர்ச்சிக்கான இலக்குடன், கற்றுவட்டார கிராமங்களில் பல்வேறு வளர்ச்சித் திட்டப் பணிகளுக்குத் தொடர்ந்து உதவி வருகிறது என்று ஸ்ரீசாய்ராம் கல்விக் குழுமத் தலைவர் சாய்பிரகாஷ் லியோ முத்து கூறினார்.

மேற்கு தாம்பரம் பூந்தண்டலம் ஊராட்சியில் உள்ள புதுச்சேரி ஊராட்சி ஒன்றிய தொடக்கப் பள்ளியில் ரூ.6 லட்சம் செலவில் அமைக்கப்பட்ட மேம்படுத்தப்பட்ட பள்ளி வகுப்பறை மற்றும் கற்றல் முறைத் திட்டத்தை (ஸ்மார்ட் கிளாஸ்) அவர் வியாழக்கிழமை தொடக்கி வைத்துப் பேசியது: ஸ்ரீசாய்ராம் பொறியியல் கல்லூரி நிர்வாகம் சார்பில், கற்றுவட்டார கிராமங்களில் இதுவரை நல்லூர் அரசு உயர்நிலைப்பள்ளிக்கு கணினி மற்றும் சூரிய ஒளி மின் வசதி கட்டமைப்பு, பொதுமக்களுக்கு கத்திகிரிக்கப்பட்ட குடிநீர் வசதி போன்ற பல்வேறு வசதிகள் இலவசமாக செய்து தரப்பட்டுள்ளன.

இதற்கான அனைத்து தொழில்நுட்பப் பணிகளையும் ஸ்ரீசாய்ராம் பொறியியல் கல்லூரி மாணவர்கள் உருவாக்கிக் கொடுத்து இருப்பது பாராட்டுக்குரியது என்றார் அவர்.

பூந்தண்டலம் ஊராட்சி மன்றத் தலைவர் எம்.ஞானபிரகாஷ், பள்ளி தலைமை ஆசிரியை டி.ராஜலட்சுமி ஸ்ரீசாய்ராம் பொறியியல் கல்லூரி முதல்வர்கள் பொற்குமரன், பழனிக்குமார், இயக்குநர் கன்பழனியாண்டி, கோமாறன் உள்ளிட்டோர் இதில் பங்கேற்றனர்.

TECHNOLOGY ENABLED CLASSROOM IN PANCHAYAT UNION ELEMENTARY SCHOOL, PUDUCHERRY VILLAGE, POONTHANDALAM







THANK YOU NOTE

The successful completion of the INVENTIVE ERUDITION project is a testament to the collaborative efforts and unwavering commitment of a diverse group of individuals and organizations. We express our deepest gratitude to each contributor and stakeholder who has played a pivotal role in making this transformative initiative a reality.

First and foremost, we would like to thank IEEE SIGHT/HTB for providing us with the funding for this project. Also thank IEEE Madras Section, IEEE Madras SIGHT Affinity Group for disbursing the funds provided by IEEE SIGHT to us and for the enormous support and faith you had on us.

Next, we extend our gratitude to the officials of Sairam Institutions. We thank, Dr. Sai Prakash Leo Muthu, our esteemed CEO and Chairman, Mr. Balu, Trustee, Mr. Naresh Raj, CIO, Dr. K.Porkumaran, Principal, Sri Sairam Engineering College, and Chairman, IEEE - Madras Section for their constant support and motivation.

The impact of the Edutech setup in Panchayat Union Primary School, Poonthandalam transcends mere infrastructure. It has become a catalyst for transformative change, fostering a culture of learning, curiosity, and growth among the students and residents. Through access to digital resources, interactive learning tools, and personalized educational experiences, we can witness remarkable improvements in academic performance, engagement, and enthusiasm for learning.

To the local community of Poonthandalam, including the Panchayat Head, President, Vice President, Headmaster of the school and other higher officials of the village thank you for embracing and supporting INVENTIVE ERUDITION. Your active participation and feedback have been crucial in tailoring the project to meet the specific needs of the community.

PROJECT EXPENSES

Project Expenses		EXPENSES PAID with Tech4Good Funds
PC COMPONENTS		52180.44
GRAPHICS TABLET		14237.29
SPEAKER		2258.58
INTERACTIVE SMART BOARD (VIEW SONIC IFP6553)		209153.76
WIFI SETUP		18215.18
SOLAR POWER GENERATION & STORAGE SYSTEM		232858.35
AUGUMENTED REALITY MODULE		12438.74
Funding Received from IEEE Tech4Good Projects	541342.3	541342.34
Funding Received from other sources	0	0
Total Project Income	541342.3	541342.34

IEEE Humanitarian Technologies Board | IEEE SIGHT Special Interest Group on Humanitarian Technology | EPICS IN IEEE Engineering Projects In Community Service

IEEE EPICS PROJECT

GAIA: SMART AND SUSTAINABLE FOREST–INDIA

Project Fund Received : 6430 USD (Rs. 5,38,448)



Project Status	*: Completed*
Project Implementation Venue	*: Mathagiri, Hosur*
Principal Investigator (PI) Name	*: Dr B Panjavarnam*
Principal Investigator (PI) Contact No.	*: 8754547300*
Principal Investigator (PI) Email ID	*: panjavarnam.ece@sairam.edu.in*
Team Lead Name	*: Prasanna Vijay*
Team Lead Contact Number	*: 9962733233*
Team Lead Email ID	*: prasannavijay111@gmail.com*
Project Sanction Date	*: 15.03.2024*
Project Completion Date	*: 12.04.2026*

Project Abstract :-

Forest Mathigiri, Hosur, Tamil Nadu is a place with huge forest divisions and wildlife connected with the human habitat in various aspects. "Forest fire breaks out in Cauvery Wildlife Sanctuary, Hosur", was one of the headlines in the news, on March 17, 2020, at 12:22 a.m. Due to the lack of early detection in the remote forest at Night times, Only 80% of the fire was put out after finding the Location due to the time. Wildlife Intrusion into Villages - "Leopard strays into the village, Hosur" On Jan 12, 2021, 20:13 IST, the Leopard entered the village killing 23 stray dogs, cattle goats, and cows, attacking 5 people and 37 elephants damaged the crops. This occurred due to the lack of detection among the entities. Wood Theft - Regardless of strong laws, the problem of wood trafficking of sandalwood, teak, and various Timber woods wasn't stopping (nearly 4-5 tractor loads of wood is collected from the forests for cooking, without permission from the Forest Department). A proper citation of illegal works is needed. Environmental and Weather Monitoring of forests with an Anti-Theft feature for IoT Nodes is needed GAIA project has evolved into a fully functional, field-deployed solution designed to support real- time forest monitoring and protection. Initiated under the collaborative efforts of Sri Sai Ram Engineering College, Kenneth Anderson Nature Society (KANS), and the Tamil Nadu Forest Department (Cauvery North Wildlife Sanctuary division) - Government, this project was aimed at addressing the increasing threats of forest fires, wildlife intrusions, and illegal timber trafficking

Project Impact :- 1) Reduction in carbon monoxide emissions during forest fire occurrences in the months of March to June, summer seasons. 2) Providing early animal intrusion alerts to forest rangers and supporting NGO, to act early upon to mitigate livelihood damages. 3) Reduction in Human Elephant Conflict (HEC) in the Anchetty R.F - Reserved Forest area, aiding more than 8000 villagers. 4) Mitigation of human and animal deaths, farmland crop losses, and architectural losses due to elephant intrusion into villages. 5) Reduced human performed illegal activities such as node theft, timber trafficking, causing forest fires and animal poaching. 6) Contributing to Global SDGs such as Life on land, Climate Action

Number of beneficiaries :- 300

IEEE
EPICS IN IEEE

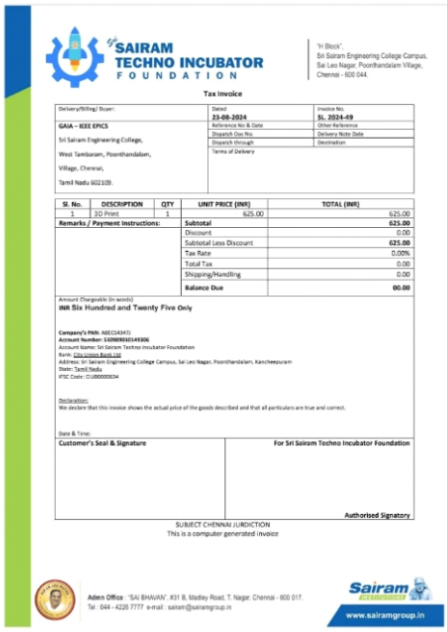
Gaia: Smart and Sustainable Forest - INDIA - $6430

EPICS in IEEE Project Budgets

Project Title	Gaia: Smart and Sustainable Forest - INDIA
IEEE Section	IEEE Madras Section
University Partner	Sri Sai Ram Engineering College
Project Lead	Prasanna Vijay
Financial Contact	*Dr. B. Panjavarnam (panjavarnam.ece@sairam.edu.in)*

Financial Breakdown

- Total Fund Received: $6,430 USD (equivalent to ₹5,27,905)
- Amount Used: ₹3,65,953
- Remaining Balance: ₹1,70,852


SAIRAM TECHNO INCUBATOR FOUNDATION

Tax Invoice

Sl. No.	DESCRIPTION	QTY	UNIT PRICE (INR)	TOTAL (INR)
1	3D Print	1	625.00	625.00

Subtotal	625.00
Discount	0.00
Subtotal Less Discount	625.00
Tax Rate	0.00%
Total Tax	0.00
Shipping/Handling	0.00
Balance Due	00.00

INR Six Hundred and Twenty Five Only

Customer's Seal & Signature

For Sri Sairam Techno Incubator Foundation

Authorised Signatory

SUBJECT CHENNAI JURDICTION
This is a computer generated invoice

Sairam
www.sairamgroup.in



IEEE Humanitarian Technologies Board | IEEE SIGHT Special Interest Group on Humanitarian Technology | IEEE TECH4GOOD

IEEE Tech4Good PROJECT

NEXT–GEN RO PURIFIER WITH SMART TDS ADJUSTMENT AND SUSTAINABLE WATER DISPENSING

Project ID : 25I3ESIG006

Project Fund

6217 USD

(Rs. 5,41,252)

Funded Organization

IEEE HAC/T4G

Project Completed at

Nandambakkam Village



Project Abstract :- Nandambakkam, a small village near Tambaram, struggles every day to get clean drinking water. The municipal supply is not safe to drink, forcing people to either buy RO water at $0.41 for 25 liters or drink unsafe water and risk their health. The nearest RO center is over 2km away, making it hard for villagers— especially women, children, and the elderly—to collect water daily. This ongoing problem affects health, work, and even children's education.

To solve this, a Next-Gen RO Purifier offers a simple and effective solution. For TDS below 300 ppm, it uses UV light to kill germs while keeping healthy minerals. For TDS above 300 ppm, it goes through a multi-step process with RO filtration, UV, and activated carbon, making the water safe and clean. The system also has dynamic pressure control, which changes based on the water temperature. This makes purification faster, saves energy, and increases the filter's lifespan.

Project Impact :-*Improved public health through access to safe drinking water. *Direct social impact in the Nandambakkam village community. *Hands-on project experience for students. *Practical exposure to real-world engineering implementation. *Strengthens institution's community engagement initiatives. *Promotes sustainable and responsible engineering practices. *Enhances the institution's contribution to social development.*

Number of beneficiaries :- 11000











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Project Sanction Date	:	*18.8.2025*
Project Completion Date	:	*17.7.2026*

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IEEE Tech4Good PROJECT

MULTI CARRIER SIGNAL AMPLIFICATION FOR RURAL CONNECTIVITY

Project ID : 24-AMPTT4G-27

Project Fund

4749 USD

(Rs. 4,14,730)

Funded Organization

IEEE HAC/T4G

Project Completed at

Government School & Post Office, Edayapakkam

Project Abstract:- The Multi-Carrier Signal Amplification for Rural Connectivity project improves mobile coverage and communication reliability in underserved rural areas. Implemented with MobiBoost and supported by Jio for technical coordination and site validation, the system amplifies multiple frequency bands without major infrastructure expansion.Through optimized antenna placement and field testing, the project enhances voice calls, mobile internet, and access to education, healthcare, banking, emergency communication, and government services. Supported by IEEE SIGHT, it offers a scalable and cost-effective solution for reducing the rural digital divide.

Project Impact:- The project improved rural mobile coverage, call quality, internet access, and network reliability. Implemented with MobiBoost and supported by Jio, it demonstrated a scalable, cost-effective solution that promotes digital inclusion and supports the goals of IEEE SIGHT.

Number of Beneficiaries:- 200



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Project Sanction Date	:	*11/23/2024*
Project Completion Date	:	*6/9/2026*

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IEEE Tech4Good PROJECT

VERTICAL TOWER FARMING – AEROPONICS

Project ID : 24-T4G1-162

Project Fund

4295 USD (Rs. 3,61,779)

Funded Organization

IEEE HAC/T4G

Project Completed at

Poonthandalam Village (Sri Sairam Engg. College)



Project Abstract:-

This project focuses on the development of an IoT-enabled Vertical Tower Farming system to achieve sustainable and resource-efficient agriculture. The system optimizes water usage, monitors critical plant growing factors such as PH, TDS, water temperature and ambient temperature, maximizes crop yield in limited spaces, and promotes livelihood opportunities for Self-Help Groups (SHGs) through modern farming practices.

Project Impact: we successfully implemented a Vertical Tower Farming system that significantly reduced water consumption while increasing crop productivity. The project empowered Self-Help Groups (SHGs) with sustainable farming technology, creating opportunities for income generation, improved food security, and community-led entrepreneurship.

Number of beneficiaries :- 75

BUDGET DETAILS

Total Amount Received : 4295 USD (Rs.3,61,779)

ITEMS	EXPENSE
GROW TOWERS	Rs. 1,70,600
SHED	Rs. 1,37,175
SENSORS	Rs. 19,000
WATER PUMP	Rs. 1,639
WATER TANK	Rs. 3,250
SEEDS	Rs. 1,550
PLUMBING & ELECTRICALS	Rs. 5,311
BALANCE	Rs. 23,254





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Project Sanction Date : *25-07-2024*
Project Completion Date : *15-12-2025*

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IEEE Tech4Good PROJECT

BIO SAN TECH

Project ID :24-T4G1-191

Project Fund

7447 USD

(Rs. 6,20,931)

Funded Organization

IEEE HAC/T4G

Project Completed at

Somangalam High School

Project Abstract:-

The BioSanTech project provides improved sanitation facilities at Government Higher Secondary School, Somangalam Village.

- *It promotes hygiene, safety, and environmental sustainability.*
- *The project includes well-ventilated toilets and urinals.*
- *The facilities are designed for easy maintenance.*
- *They help reduce unpleasant odours and improve cleanliness.*
- *Special attention is given to privacy and safety for girl students.*
- *The project supports better student health and dignity.*
- *It aims to reduce absenteeism caused by poor sanitation.*
- *It encourages cleanliness and sustainable habits.*
- *The initiative improves the overall well-being of students.*

Project Impact :

1. Enhanced overall wellness and health of students.2..Improved awareness and mindfulness of cleanliness and hygienic toilet practices. 3 increase in the students attendance, 4.Reduction in the spread of hygiene-related diseases among students.

Number of beneficiaries :- 700

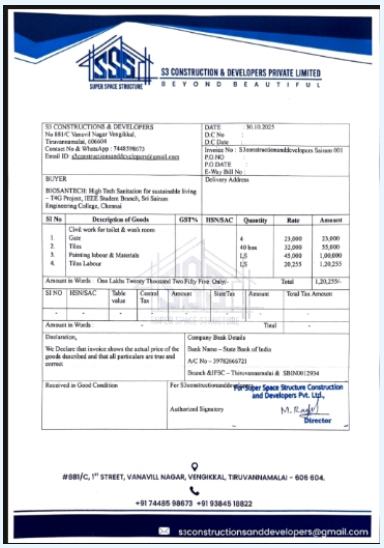
















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Project Implementation Venue	:	*Somangalam High School*
Project Sanction Date	:	*31.07.2024*
Project Completion Date	:	*02.02.2026*

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IEEE Tech4Good PROJECT

ECOLUMEN

Project ID :24ITIETG01

Project Fund

8802 USD

(Rs. 7,34,818)

Funded Organization

IEEE HAC/T4G

Project Completed at

Somangalam

Project Abstract:-

EcoLumen is an IEEE HTB/SIGHT Tech4Good humanitarian initiative developed to improve the living conditions of elderly residents at Little Drops Old Age Home, Somangalam, Chennai. The project addresses rising electricity costs and the need for uninterrupted power through a sustainable solar energy system integrated with IoT-based monitoring.

Developed by students and faculty of Sri Sairam Institute of Technology, EcoLumen secured USD 8,802 in funding from the IEEE HTB/SIGHT Tech4Good program. The system provides clean and reliable electricity while monitoring energy generation, consumption, battery health, and overall performance.

The project reduces operational expenses, enables proactive maintenance, and supports long-term energy sustainability. It also offers students practical experience in renewable energy, smart technologies, project management, and community engagement while creating meaningful social impact.

***Project Impact :-** Little Drops Old Age Home provides a safe and supportive environment for elderly residents and relies on continuous electricity for lighting, fans, kitchen equipment, water pumps, medical devices, and security systems.Rising electricity costs place a significant burden on the institution's operational budget, limiting resources available for healthcare,*





nutrition, resident welfare, and infrastructure development. EcoLumen addresses this challenge through a sustainable solar energy system integrated with intelligent monitoring technologies.The project reduces energy expenses, improves power reliability, enhances energy independence, and minimizes environmental impact. It also demonstrates the practical use of renewable energy in community-based institutions and encourages wider adoption of sustainable engineering solutions.

Number of beneficiaries :- 400









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Team Lead Email ID	:	*sit21it113@sairamtap.edu.in*
Project Sanction Date	:	*5/8/2025*
Project Completion Date	:	*13/3/2026*

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IEEE Tech4Good PROJECT

GREEN HOPE IOT ENABLED HYDROPONICS SYSTEM

Project ID :24-T4G1-071

Project Fund

7507 USD

(Rs. 6,28,465)

Funded Organization

IEEE HAC/T4G

Project Completed at

Little Drops Public Charitable Trust, Somangalam

Project Abstract:-

The Green Hope – IoT-Enabled Smart Hydroponics System is a sustainable food production initiative developed for Little Drops Public Charitable Trust, Somangalam, which supports more than 473 elderly and abandoned residents.

The project established a 500-square-foot, solar-powered hydroponic greenhouse with IoT-based monitoring and automation for nutrient supply, water levels, and environmental conditions. It ensures a continuous supply of fresh vegetables, improves nutritional diversity, reduces food expenses, and creates income opportunities through surplus produce.

Implemented by a multidisciplinary student team from Sri Sairam Engineering College with IEEE Tech4Good support, the system demonstrated reliable performance, accurate monitoring, and long-term operational potential. The project offers a scalable model combining IoT, renewable energy, hydroponics, and community welfare.

Project Impact :-

Project Green Hope created significant nutritional, social, economic, and environmental benefits for Little Drops Public Charitable Trust. A total of 473 elderly and abandoned residents received a regular supply



of fresh, chemical-free greens cultivated on-site, improving nutrition and reducing dependence on external suppliers.

Residents also participated in plant maintenance and harvesting activities, promoting emotional wellbeing, engagement, and a sense of purpose. The Harvest Day celebration held on 22 December 2025 further strengthened interaction among residents, caregivers, faculty, and students.

The initiative reduced recurring food expenses and transportation costs while creating opportunities for income generation through surplus produce. Around 3,951 people benefited indirectly through training and knowledge sharing on the low-cost hydroponic model.

Powered by solar energy, the system uses up to 90% less water than conventional farming and reduces carbon emissions, demonstrating a scalable and sustainable approach that combines technology, agriculture, and social welfare.

Number of beneficiaries :- 473



FUNDING DETAILS

Fund received from IEEE Tech4Good	₹ 6,28,465
Fund Utilized	₹ 5,97,191
Balance in IEEE Student Branch Account	₹ 31,274







Principal Investigator (PI) Name	:	*Meiyanathan M*
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Project Sanction Date	:	*15/6/2024*
Project Completion Date	:	*22/12/2025*

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IEEE Tech4Good PROJECT

BLUE TRACK WATER MONITORING AND MANAGEMENT SYSTEMS

Project ID : 25I3E001

Project Fund

6508 USD

(Rs. 5,66,360)

Funded Organization

IEEE HAC/T4G

Project Completed at

Katrambakkam

Sriperumbuthur

Project Abstract:-

The Blue Track Water Monitoring and Management System is an IEEE HTB Tech4Good initiative designed to promote efficient and sustainable water management in rural communities.

The system uses sensors, embedded technology, and communication modules to monitor water quality, availability, and usage in real time. It enables early detection of water-related issues, reduces wastage, supports informed decision-making, and improves community awareness of responsible water practices.

Developed in collaboration with the local community, Blue Track demonstrates how engineering innovation can address social and environmental challenges. The project supports SDG 6, SDG 9, and SDG 11 and provides a scalable model for smart water management in rural areas.

Project Impact :-

The Blue Track Water Monitoring and Management System has benefited around 500 residents of the predominantly tribal community in Thendral Nagar, Katrambakkam, by improving access to purified and safe drinking water.



The smart monitoring system supports effective management of water quality, availability, and consumption, helping reduce wastage and promote responsible water use. It has also increased community awareness of water conservation and sustainable practices while improving health, well-being, and quality of life.

The project provides engineering students with practical experience in IoT, sensors, embedded systems, and humanitarian technology. Blue Track demonstrates how engineering innovation can support underserved communities while contributing to SDG 6, SDG 9, and SDG 11.

Number of beneficiaries :- 500















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Project Sanction Date	:	*18.08.2025*
Project Completion Date	:	*18.02.2026*

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IEEE Tech4Good PROJECT

BRIDGING THE DIGITAL DIVIDE –ROAD TO DIGITAL CONNECTIVITY

Project ID :25-T4G-136

Project Fund

8908 USD (Rs. 7,66,080)

Funded Organization

IEEE HAC/T4G

Project Venue :

Somanglam Village
E seva center

Project Abstract:- *The **Bridging the Digital Divide – Road to Digital Connectivity** project aims to create a sustainable digital learning ecosystem in Somangalam Village. Funded by IEEE with ₹7,66,080 (USD 8,908), the project addresses limited digital access and inadequate technological infrastructure.*

The initiative includes a solar-powered energy system, computers, networking facilities, Smart TV-based learning, offline educational resources, furniture, and teacher training. By combining renewable energy with digital technology, the project promotes digital literacy, inclusive education, and community empowerment.

Project Impact:- *The project will establish a solar-powered digital learning centre benefiting students, youth, teachers, women, and local residents. The centre will provide digital skills training, career guidance, certification courses, entrepreneurship development, mentoring, and service-learning opportunities.*

It promotes uninterrupted digital access, environmental sustainability, inclusive education, and long-term social and economic development.

Number of Beneficiaries:- 1500 (students, Youth)







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Project Sanction Date	:	*6/20/2025*
Project Completion Date	:	*7/30/2026*

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IEEE EPICS PROJECT

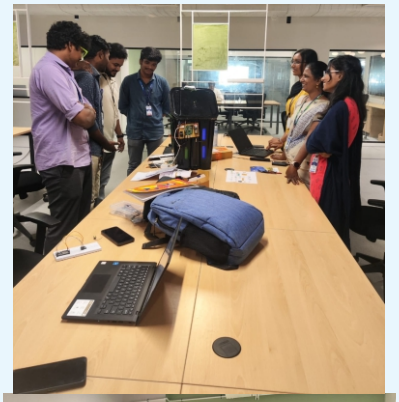
CREDIT BASED SMART GARBAGE DISPOSAL BIN

Project Fund

4500 USD
(Rs. 4,34,000)

Funded Organization
IEEE HAC/EPICS

Project Venue :
Poonthandalam





Project Abstract :- *"An innovative waste management solution using sensors and real-time data analytics to automatically classify and sort waste, with cloud integration that enhances waste segregation efficiency, optimizes municipal collection, and drives sustainability by reducing landfill waste with smart,data-driven insights."*

Project Impact:- *Improved Waste Segregation: Increase correct waste disposal rate by 60–75% through smart monitoring and user feedback.* ***Behavioral Change:*** *Encourage sustainable habits using a credit-based incentive system.* ***Reduction in Improper Dumping:*** *Reduce open dumping by 40% in pilot zones.* ***Real-Time Data Collection:*** *Enable authorities to track bin usage, waste type, and overflow patterns via IoT.* ***Cleaner Environment:*** *Foster hygiene and reduce local pollution in target areas.*

Number of beneficiaries:-3000





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Project Sanction Date	:	*1/1/2023*
Project Completion Date	:	*9/5/2025*

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IEEE Tech4Good PROJECT

WASTE TO WEALTH – IOT DRIVEN SMART VERMICOMPOST

Project ID :- 25-T4G-137



Project Fund

4121 USD
(Rs. 3,97,467)

Funded Organization
IEEE HAC/T4G

Project Venue :
Poonthandalam

Project Abstract :- *Solid waste disposal is a major environmental challenge in Poonthandalam Village, where large quantities of waste are generated and sent to landfills. This project addresses the issue by converting biodegradable waste into high-quality vermicompost through an IoT-enabled automated monitoring system. The system continuously tracks temperature, pH, and moisture levels to maintain ideal composting conditions. A specialized microbial consortium of lactic acid bacteria, yeast, and photosynthetic bacteria improves earthworm growth, compost quality, and overall efficiency.*

By combining biotechnology with IoT-based monitoring, the project offers a sustainable and effective solution for waste management, pollution reduction, and organic fertilizer production.

Project Impact:- *The Plastic Bank Initiative collects non-biodegradable waste and sells it to recycling vendors, reducing landfill pollution. By processing 200 kg of waste daily, the project produces 100 kg of nutrient-rich organic manure for local farmers. It also creates employment and entrepreneurship opportunities for women and marginalized communities. Through innovation and automation, the initiative transforms waste into wealth and supports sustainable development.*

Number of beneficiaries :- 3,117







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Project Sanction Date	:	*19-09-2025*
Project Completion Date	:	*27-06-2026*

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IEEE Tech4Good PROJECT

WINDX–VERTICAL AXIS WIND TURBINE (VAWT)

Project ID : 25-T4G-082

Project Fund

8128 USD (Rs. 6,95,396)

Funded Organization

IEEE HAC/T4G

Project Venue :

Sai Old Age Home Kundrathur, Chennai

Project Abstract :- *WindX is an IEEE Tech4Good 2025-funded project providing affordable renewable energy to Sai Old Age Home, Kundrathur. A portable Vertical Axis Wind Turbine generates clean backup electricity for lighting, cooling, communication, and medical equipment. Developed by Sri Sai Ram Institute of Technology with USD 8,128 in IEEE funding, the project reduces electricity costs and carbon emissions. Aligned with SDG 7 and SDG 13, WindX offers a scalable model for sustainable community energy.*

Project Impact:-*WindX has created significant social, environmental, and educational impact by installing a portable wind turbine at Sai Old Age Home, Kundrathur. The system provides reliable backup power for lighting, cooling, communication, and medical equipment, improving residents' safety and reducing electricity costs. Supporting SDG 7 and SDG 13, the project promotes clean energy while giving students practical experience in renewable energy and community service. It also serves as a scalable sustainable energy model for welfare institutions.*

Number of beneficiaries : 110





Principal Investigator (PI) Name	:	*Dr G.SARITHA*
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Project Completion Date	:	*01-10-2026*

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IEEE EPICS PROJECT

BEYOND BOOKS: TRANSFORMING LEARNING WITH AR AND VR FOR AUTISM & RURAL

Project Fund

6650 USD
(Rs. 5,68,945)

Funded Organization
IEEE HAC/EPICS

Project Venue :
NIEPMD

Project Abstract :- ***EASY ISE VR (Interactive Skills Enhancer)*** *is an AI-powered educational platform that integrates* ***Virtual Reality (VR) and Augmented Reality (AR)*** *to provide inclusive learning for children with autism, Intellectual Disabilities (ID), and learners in rural India. The VR environment helps develop social, cognitive, and daily living skills through interactive simulations. AR flashcards feature 3D models, animations, multilingual audio, and Indian Sign Language (ISL) support, making learning more accessible. Machine Learning personalizes lessons based on individual progress and provides real-time feedback. The platform empowers teachers, parents, and therapists while promoting engaging, accessible, and personalized education for diverse learners across India.*

Project Impact:- EASY ISE VR (Interactive Skills Enhancer) *is an AI-powered educational platform that combines* ***Virtual Reality (VR) and Augmented Reality (AR)*** *to deliver inclusive learning for children with Autism Spectrum Disorder (ASD), Intellectual Disabilities (ID), and learners in rural India. Through immersive VR simulations, children develop social, cognitive, and daily living skills in a safe environment. AR flashcards featuring 3D models, multilingual audio, and Indian Sign Language (ISL) enhance concept understanding and accessibility. Machine Learning personalizes learning based on individual progress and provides real-time feedback. The platform empowers teachers, parents, and therapists while promoting engaging, accessible, and personalized education for diverse learners.*

Number of beneficiaries :- 400

Project status	:	*Completed*
Principal Investigator (PI) Name	:	*Dr.M.Nithya*
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Principal Investigator (PI) Email ID	:	*hod.cj@sairam.edu.in*
Team Lead Name	:	*G Hasumathi Lakshmi*
Team Lead Contact Number	:	*7358180948*
Team Lead Email ID	:	*hasumathilakshmi@gmail.com*
Project Sanction Date	:	*19-08-2019*

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IEEE Tech4Good PROJECT

AQUASOL

Project ID : 25ITIETG01 / 25-T4G-156

Project Fund

8499 USD
(Rs. 7,29,639)

Funded Organization
IEEE HAC/T4G

Project Venue :
Pazhanthandalam

Project Abstract :- AquaSol *is a sustainable water management project designed to address the water crisis in Ward 8 (Pazhanthandalam Colony), Tamil Nadu, benefiting* ***260 households and 1,040 residents.*** *The project uses a* ***solar-powered Reverse Osmosis (RO)*** *system to desalinate and purify saline borewell water, providing safe drinking water while reducing electricity costs. An integrated* ***IoT monitoring system*** *continuously tracks water quality parameters, including TDS, pH, turbidity, temperature, and algae levels, ensuring real-time quality assessment and timely maintenance. By combining renewable energy, advanced filtration, and smart monitoring, AquaSol delivers a reliable, affordable, and sustainable solution for clean water access and community well-being.*

Project Impact:- *By providing safe and clean drinking water, AquaSol aims to improve the health and well-being of the community, reduce the incidence of water-borne diseases, and alleviate the financial burden on families forced to purchase potable water. This sustainable and technologically advanced solution is envisioned to create a lasting positive impact on public health, reduce the carbon footprint, and enhance community resilience in Pazhanthandalam Colony.*

Number of beneficiaries :- *260 households and 1,040 residents of Pazhanthandalam Colony*





Principal Investigator (PI) Name	:	*Dr.R.Prabavathi*
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Project Sanction Date	:	*30.06.2025*
Project Completion Date	:	*31.07.2026*

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IEEE EPICS PROJECT

CORA RESTORATOR : REBUILDING NATION'S MARINE TREASURE

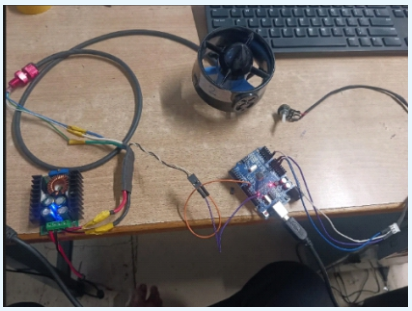
Project Fund

7300 USD
(Rs. 7,03,180)

Funded Organization
IEEE HAC/EPICS

Project Venue :
Covelog

Project Abstract :- The Cora-Restorator *is an autonomous underwater rover that monitors coral reef health in real time. Using advanced sensors, AI, and ML, it collects environmental data and creates detailed 3D reef maps. The system offers a faster, cost-effective alternative to traditional monitoring methods. By providing accurate data, it supports reef restoration, biodiversity conservation, and the protection of marine ecosystems threatened by climate change and pollution.*



Project Impact:- *The Cora-Restorator aims to complete over 100 autonomous missions annually with 90% data accuracy, providing real-time insights into coral health, bleaching, and biodiversity. It will educate 500 local stakeholders and target a 60% improvement in reef conservation awareness. Open-source data and software will support researchers and NGOs worldwide. Aligned with SDGs 4, 13, 14, and 17, the project promotes marine conservation, education, climate action, and global collaboration.*

Number of beneficiaries :- 42000



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Team Lead Email ID	:	*harishvp2004@gmail.com*
Project Sanction Date	:	*3/7/2026*

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For the goals to be reached, everyone needs to do their part: governments, the private sector civil society and

people like you.

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Sai Prakash Leo Muthu

Chairman & CEO – Sairam Institutions

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